and appears to concentrate selectively in abscesses. It does not appear to antagonize other antibiotics.

It has been shown effective in treatment of patients with anaerobic sepsis or endocarditis, meningitis and brain abscess, posthysterectomy and postpartum pelvic infections, lung abscess or empyema, including patients who failed to respond to other antibiotics. In these cases, bactericidal blood concentrations correlate with successful outcome. It has also been effective in prophylaxis in bowel surgical procedures, appendectomy and gynecologic surgical operations.

Its use in antianaerobe therapy has been considered experimental in the United States in the absence of licensing for this indication. It has been available for oral administration only, but is absorbed after rectal administration and an intravenously given preparation is under study, which would allow therapy of seriously ill patients.

Side effects are minimal and infrequent, and include gastrointestinal disturbances at high doses, transient leukopenia and sensory neuropathy, headache and vestibular symptoms. Mutagenesis has been shown in bacteria but is of uncertain relevance, particularly because certain intracellular conditions correlated with this effect in bacteria have not been shown in humans. Carcinogenicity occurs in some rodents, but this is of uncertain significance since the doses and duration used in these experiments bear no relation to that used in human therapy.

Studies here and abroad indicate that this agent, at present undergoing further trials and possibly available in the future for general use in antianaerobe therapy in the United States, represents a major therapeutic advance—particularly against Bacteroides.

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Hepatitis B Immune Globulin in the Prevention of Hepatitis B

HEPATITIS B is a common infection reaching epidemic proportions in some populations. Previously referred to as "serum hepatitis," hepatitis due to the B virus is now known to be transmitted not only by parenteral routes but also by close physical contact and exposure of mucus membranes to the virus. Hepatitis B is easily diagnosed by showing the presence in serum of hepatitis B surface antigen (HB_sAg) or by a rising titer of antibody against the surface antigen (anti-HB_s). Recently, a preparation of hepatitis B immune serum globulin (HBIG) has become available.

HBIG can cost more than $150 per injection and two doses, approximately 30 days apart, are recommended. For comparison, ordinary gamma globulin (immune serum globulin, ISG), which may contain appreciable titers of anti-HB_s, costs less than $10.

HBIG is prepared from plasma in a manner similar to common ISG except that the donor source of plasma is high in titer of anti-HB_s. Both preparations are safe, neither transmits hepatitis, and side effects from intramuscular administration are low. HBIG has been shown in several controlled trials to reduce the likelihood of clinical illness and seroconversion due to hepatitis B. One large study of needle puncture exposure reported a 1.4 percent incidence of clinical hepatitis and a 5.6 percent seroconversion (anti-HB_s) in subjects given HBIG. This was in contrast to a 5.9 percent incidence of clinical hepatitis and a 20.7 percent seroconversion of subjects receiving immune serum globulin containing uncommonly *low* levels of anti-HB_sAg.

The United States Public Health Service Advisory Committee on Immunization Practices recommends the use of HBIG for patients with a single exposure to blood containing hepatitis B virus. This contact can take several forms, including needle puncture, mucus membrane contact or open wound contamination. Other less well established indications for HBIG use include exposure to body fluids other than blood products (urine, saliva, stool and the like), close physical contact with carriers of HB_sAG, and constant environmental exposure such as occurs in hemodialysis units or custodial institutions for the mentally retarded.

The initial intramuscular dose of 0.05 to 0.07 ml per kg of body weight should be given as soon as possible after exposure (not more than 7 days) and is followed by a second injection 30 days later. Confirmation of the HB_sAg positivity of the donor is mandatory and showing the absence of anti-HB_s is desirable if testing will not unduly delay gamma globulin prophylaxis. Chronic contact such as occurs in spouses of chronic carriers is not a sufficient indication for HBIG administration. Detailed questioning of the circumstances surrounding the actual exposure is necessary since many

patients overemphasize the significance of their exposure because of anxiety. When doubt arises regarding the exposure, routine ISG therapy can be used as an alternative to HBIG because most currently available preparations of ISG contain significant levels of anti-HB_s and may prove to be as effective as the more costly preparation.

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Medical Versus Surgical Treatment of Coronary Artery Disease

IT IS ESTIMATED that in 1977 myocardial revascularization operations were carried out in approximately 70,000 patients. Recent studies, however, have questioned the efficacy of coronary artery bypass procedures in prolonging life. The most noteworthy of these are the multicenter randomized study on unstable angina and the Veterans Administration cooperative study on chronic stable angina. The unstable angina study required the patients to have unstable or changing anginal symptoms in association with electrocardiographic changes during pain. These patients had to have at least a 70 percent stenosis of one or more of the major coronary artery branches. At the end of 24 months there was no statistically significant difference between the mortality of the surgical (5 percent) versus the medical (6 percent) group. It was remarkable that a third of the medically treated patients crossed over to the surgical group because of lack of adequate control of symptoms with medication. It was significant that there were three times as many medically treated patients in the functional class 3 to 4 group as surgically treated patients. The hospital mortality was not significantly different between medical (3 percent) and surgical (5 percent) groups. The myocardial infarction rate on the initial hospital admission was higher in the surgical group (17 percent) than in the medically treated group (7 percent) and this was statistically significant.

The Veterans Administration study on chronic stable angina showed no significant increase in the survival of medically treated patients versus surgically treated patients with one-, two- or three-vessel coronary artery disease. The major objections to this study are a graft closure rate of 31 percent and a surgical mortality of 5.6 percent, which are considerably higher than those published by many other institutions during the same period (1972 through 1974). This study did show, however, that patients with left main coronary artery disease fared significantly better with surgical than medical therapy.

At present at most major institutions the early hospital mortality for saphenous vein bypass surgical operation is 1 percent to 2.5 percent and the graft patency rate is 85 percent to 90 percent at 3 to 12 months. It is likely, though not yet proved, that in these centers longevity might be enhanced in the surgically treated groups. Though only improved longevity for patients with left main stem coronary disease has been confirmed, the quality of life for surgically treated patients seems to be better because 70 percent of them will be totally relieved of angina whereas only 30 percent of medically treated patients will be completely relieved. This could be especially important in young active patients who might survive a large myocardial infarction but be limited by angina or reduced ventricular function.

Physicians should be keenly aware of the surgical results of the centers to which they refer patients. The continuing national multicenter studies will shed more light on this controversy.

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Diagnosis of Sjögren Syndrome

SJÖGREN SYNDROME (SS) is the second most common (and perhaps least well-known) connective tissue disease. Its estimated prevalence may be as high as 1 in 200. Sjögren recognized the generalized nature of the disease and defined the characteristic triad of keratoconjunctivitis sicca (KCS), xerostomia and chronic arthritis. Studies from several centers over the last decade have indicated the systemic and autoimmune nature of the disease, and the possible relationship to malignant lymphoproliferation. The hallmark of the disease is lymphocytic infiltration which can involve lung, liver, kidneys and muscles. Rheumatoid factor, antinuclear factor and other autoantibodies occur frequently.

Labial salivary gland (LSG) biopsy study is a major advance in diagnosis, permitting histopatho-